

AMENDED REPORT

WATER WELL REPORT

Start Card No. W 064454
Unique Well I.D. #
Water Right Permit No.

STATE OF WASHINGTON

(1) OWNER: Name UNCLE STUART'S GOLF

Address 9010 1/2 NE 41ST BELLEVUE, WA 98004-

(2) LOCATION OF WELL: County ISLAND

(2A) STREET ADDRESS OF WELL (or nearest address) COLE'S RD, LANGLEY

SE 1/4 SW 1/4 Sec 9 T 29 N., R 3E WM

(3) PROPOSED USE: IRRIGATION

(10) WELL LOG

(4) TYPE OF WORK: Owner's Number of well
(If more than one) 2

NEW WELL

Method: ROTARY

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change in formation.

(5) DIMENSIONS: Diameter of well 8 inches
Drilled 294 ft. Depth of completed well 294 ft.

MATERIAL	FROM	TO
BROWN SAND	0	12
BLUE CLAY	12	21
BROWN CLAY & GRAVEL	21	155
BROWN SANDY CLAY	155	208
BLUE CLAY	208	250
COARSE SAND & BLUE CLAY	250	275
COARSE SAND & WATER	275	294
CLAY SAND & WATER	294	

(6) CONSTRUCTION DETAILS:

Casing installed: 10 " Dia. from 0 ft. to 181 ft.
WELDED 8 " Dia. from 0 ft. to 294 ft.
" Dia. from ft. to ft.

Perforations: NO

Type of perforator used

SIZE of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

Screens: YES

Manufacturer's Name

COOK

Type STAINLESS STEEL

Model No.

Diam. 8 slot size 25 from 294 ft. to 284 ft.

Diam. 8 slot size 20 from 284 ft. to 274 ft.

Well Located According To
Island County Ordinance # 809

Gravel packed: NO

Size of gravel

Gravel placed from ft. to ft.

Surface seal: YES

To what depth? 18 ft.

Material used in seal BENTONITE

Did any strata contain unusable water? NO

Type of water? Depth of strata ft.

Method of sealing strata off

RECEIVED

JAN 15 2011

Dept of Ecology
WR-NWRO

(7) PUMP: Manufacturer's Name

Type

H.P.

(8) WATER LEVELS:

Land-surface elevation

above mean sea level ... ft.

Static level 167 ft. below top of well Date 07/03/96

Artesian Pressure lbs. per square inch Date

Artesian water controlled by

Work started 06/24/96

Completed 07/03/96

(9) WELL TESTS: Drawdown is amount water level is lowered below static level.

Was a pump test made? If yes, by whom?

Yield: gal./min with ft. drawdown after hrs.

Recovery data

Time	Water Level	Time	Water Level	Time	Water Level
------	-------------	------	-------------	------	-------------

Date of test / /

Bailer test gal/min. 107 ft. drawdown after hrs.

Air test 250+ gal/min. w/ stem set at ft. for 1 hrs.

Artesian flow g.p.m. Date

Temperature of water Was a chemical analysis made?

WELL CONSTRUCTOR CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME DAHLMAN PUMP & WELL DRILL

(Person, firm, or corporation) (Type or print)

ADDRESS PO BOX 422

[SIGNED] License No. 0623

Contractor's

Registration No. DAHLMPW123LC

Date 07/03/96

32892



WELL LOG CHANGE FORM

Instructions: Record any change made to the well log record on this form.
Then always append this form to the well log image. File with the original.

WCL Log ID (Required) 47126 Well Log ID 85452

Regional Office: ☐CRO ☐ERO ☒NWRO ☐SWRO

Type of Well: ☒Water ☐Resource

Notice of Intent: W064454 Ecology Well ID Tag No. BAA966

Property (Well) Owner's Name Mike O'Sullivan, Uncle Stuart's Golf

Well Street Address Cole's Road

City Langley County Island Zip Code _____

Location: SE 1/4-1/4 SW 1/4 Sec 9 Twn 29N R 3 ☒E or W (Circle One)

Lat./Long: (Required) Lat. Deg. _____ Lat. Min/Sec _____

Long. Deg. _____ Long. Min/Sec _____

Horizontal Collection Method Code _____

Tax Parcel No. _____

Type of Work: ☒New Well ☐Reconditioned ☐Deepened

Well Log Received Date 1/18/10

Well Diameter 8 (in inches) Well Depth 294 (in feet) Well Completed Date 7/3/96

Driller's Ecology License No. 6623

Trainee's Ecology License No. _____

Reason/Source of Change (Required)

per notice from Erika Lindsey at State DOH, correct
1/4 1/4 TRS is SE/SW T29 R3 S9 of Island
County

Signature of Well Log Tracker (Required) Arlene Harris Date 1/21/10

Harris, Arlene (ECY)

From: Liszak, Jerry (ECY)
Sent: Thursday, January 21, 2010 3:37 PM
To: Harris, Arlene (ECY)
Subject: FW: Vistaire Well Log

Jerry L. Liszak, LG, LHG
Technical Unit Supervisor
Water Resources Program
Department of Ecology
(425) 649-7013

From: Lindsey, Erika L (DOH)
Sent: Tuesday, January 19, 2010 10:28 AM
To: Liszak, Jerry (ECY)
Subject: RE: Vistaire Well Log

Hi Jerry,

The incorrect well log has NE ¼ NW ¼ Sec 16 T 29N R 3E
The new well log reads: SE ¼ SW ¼ Sec 9 T 29 N R 3E

I will get George to mail you a copy of the well log. It looks like Vistaire no longer needs to do a Change App, am I correct?

Hope you had a good long weekend,
-Erika

Erika Lindsey, PE
Department of Health, Office of Drinking Water
20435 72nd Ave S, Suite 200, Mailstop K 17-12, Kent, WA 98032
Phone (253) 395-6766 / Fax (253) 395-6760
Erika.Lindsey@doh.wa.gov
www.doh.wa.gov/ehp/dw

PUBLIC HEALTH - Always Working for a Safer and Healthier Washington

From: Liszak, Jerry (ECY)
Sent: Friday, January 15, 2010 2:59 PM
To: Lindsey, Erika L (DOH)
Subject: RE: Vistaire Well Log

What section was it shown in before so we can remove the incorrect one?

Jerry L. Liszak, LG, LHG
Technical Unit Supervisor
Water Resources Program
Department of Ecology
(425) 649-7013

From: Lindsey, Erika L (DOH)
Sent: Friday, January 15, 2010 2:42 PM
To: Liszak, Jerry (ECY)
Subject: Vistaire Well Log

Hi Jerry,

Here is a copy of the corrected well log for Vistaire Water System. Do they need to send you anything else for their new well?

Thanks and Happy Weekend,
-Erika

<< File: 0634_001.pdf >>

ENTERED

WATER WELL REPORT

Start Card No. N 064454
Unique Well I.D. #
Water Right Permit No.

STATE OF WASHINGTON

(1) OWNER: Name **UNCLE STUART'S GOLF** Address **9010 1/2 NE 41ST BELLEVUE, WA 98004-**(2) LOCATION OF WELL: County **ISLAND** - NE 1/4 NW 1/4 Sec 16 T 29 N., R 3E WM
(2a) STREET ADDRESS OF WELL (or nearest address) **COLE'S RD, LANGLEY** **29-3E-16C**(3) PROPOSED USE: **IRRIGATION**

(10) WELL LOG

(4) TYPE OF WORK: Owner's Number of well **2**
(If more than one)
Method: **ROTARY**

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change in formation.

(5) DIMENSIONS: Diameter of well **8** inches
Drilled **294** ft. Depth of completed well **294** ft.

MATERIAL	FROM	TO
BROWN SAND	0	12
BLUE CLAY	12	21
BROWN CLAY & GRAVEL	21	155
BROWN SANDY CLAY	155	208
BLUE CLAY	208	250
COARSE SAND & BLUE CLAY	250	275
COARSE SAND & WATER	275	294
CLAY SAND & WATER	294	

(6) CONSTRUCTION DETAILS:
Casing installed: **10** " Dia. from **0** ft. to **181** ft.
WELDED **8** " Dia. from **0** ft. to **294** ft.
" Dia. from ft. to ft.Perforations: **NO**Type of perforator used
SIZE of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.Screens: **YES**Manufacturer's Name **COOK**
Type **STAINLESS STEEL** Model No.
Diam. **8** slot size **25** from **294** ft. to **294** ft.
Diam. **8** slot size **20** from **284** ft. to **274** ft.Gravel packed: **NO** Size of gravel
Gravel placed from ft. to ft.Surface seal: **YES** To what depth? **18** ft.
Material used in seal **BENTONITE**
Did any strata contain unusable water? **NO**
Type of water? Depth of strata ft.
Method of sealing strata offWell Located According To
Island County Ordinance # 809

RECEIVED

JUL 11 1996

DEPT. OF ECOLOGY

(7) PUMP: Manufacturer's Name
Type H.P.(8) WATER LEVELS: Land-surface elevation
above mean sea level ... ft.
Static level **167** ft. below top of well Date **07/03/96**
Artesian Pressure lbs. per square inch Date
Artesian water controlled byWork started **06/24/96**Completed **07/03/96**

(9) WELL TESTS: Drawdown is amount water level is lowered below static level.

Was a pump test made? If yes, by whom?
Yield: gal./min with ft. drawdown after hrs.Recovery data
Time Water Level Time Water Level Time Water LevelDate of test / /
Bailer test gal/min. **107** ft. drawdown after hrs.
Air test **250+** gal/min. w/ stem set at ft. for 1 hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made?

WELL CONSTRUCTOR CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME **DAHLMAN PUMP & WELL DRILL**
(Person, firm, or corporation) (Type or print)ADDRESS **PO BOX 422**[SIGNED] *Leo Dieckman* License No. **0623**Contractor's
Registration No. **DAHLMPPW123LC** Date **07/03/96**



WELL LOG CHANGE FORM

Instructions: Record any change made to the well log record on this form.
Then always append this form to the well log image. File with the original.

WCL Log ID (Required) 82128 Well Log ID 47126

Regional Office: ☐ CRO ☐ ERO ☒ NWRO ☐ SWRO

Type of Well: ☒ Water ☐ Resource

Notice of Intent: W064454 Ecology Well ID Tag No. BAA966

Property (Well) Owner's Name Vistaire Water System

Well Street Address Coles Rd

City Cangley County Island Zip Code _____

Location: SW 1/4-1/4 SW 1/4 Sec 9 Twn 29N R 03 E or W (Circle One)

Lat./Long: (Required) Lat. Deg. _____ Lat. Min/Sec _____

Long. Deg. _____ Long. Min/Sec _____

Horizontal Collection Method Code _____

Tax Parcel No R 32900-048-1570

Type of Work: ☒ New Well ☐ Reconditioned ☐ Deepened

Well Log Received Date 7/11/96

Well Diameter 8 (in inches) Well Depth 294 (in feet) Well Completed Date 1/1

Driller's Ecology License No. 0633

Trainee's Ecology License No. _____

Reason/Source of Change (Required)

Per water right information attached, well is
actually located in section 9

Signature of Well Log Tracker (Required) Brenda Hanes Date 12/16/09



WASHINGTON STATE
DEPARTMENT OF
ECOLOGY

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JUL 23 2009

Dept of Ecology
WRN/RO

Well Tagging Form

Unique Well Tag No:

BAA

RECORD VERIFICATION (check ☒ one)

Well Report available (please attach this form to the well report and submit it to the Ecology Regional Office near you).

If a well report is not available, please complete a "Water Well Report for an Existing Well" form. This form is available at Ecology's headquarters office. Do not use this form for wells that do not have a Water Well Report.

WELL OWNERSHIP, IF DIFFERENT FROM WELL REPORT

First Name: Vistaire Water Last Name: System (ID #57414E)Street Address: 2863 E Verlane St.City: Langley State: WA 98260

LOCATION OF WELL, IF DIFFERENT FROM WELL REPORT

Well Address: Parcel R32900-048-1570City: Langley County: IslandT. 29 N. R. 3 E W.M. Sec. 9 SW $\frac{1}{4}$ of the SW

Latitude _____

Longitude _____

Elevation at land surface _____ feet/meters (circle one)

SEE BACK SIDE OF PAGE...

WELL CHARACTERISTICS

Location of Well identification Tag:

Strapped to well casing
8-inch casing

D	C	B	A
E	F	G	H
M	L	K	J
N	P	Q	R

Scale 1:24,000 (1" = 2,000')

Indicate the location of the well within the Section by drawing a dot at that point

SECTION

9

COMMENTS:

This is on a large undeveloped wooded acreage. The original well driller's log erroneously indicated location in north part of section 16. Actual location is now determined to be in south part of section 9. See attached map (well B")

47126

WATER WELL REPORT

Start Card No.

N 064454

Unique Well I.D. #

Water Right Permit No.

STATE OF WASHINGTON

(1) OWNER: Name UNCLES STUART'S GOLFAddress 9010 1/2 NE 41ST BELLEVUE, WA 98004(2) LOCATION OF WELL: County ISLAND- NE 1/4 NW 1/4 Sec 16 T 29 N., R 3E WM(2a) STREET ADDRESS OF WELL (or nearest address) COLE'S RD. LANGLEYSE SW Sec 9 (see water right report)(3) PROPOSED USE: IRRIGATION

(10) WELL LOG

(4) TYPE OF WORK:

Owner's Number of well

(If more than one)

2

NEW WELL

Method: ROTARY

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change in formation.

(5) DIMENSIONS:

Diameter of well 8 inches

Drilled 294 ft.

Depth of completed well 294 ft.

MATERIAL

BROWN SAND

FROM

TO

BLUE CLAY

0

12

BROWN CLAY & GRAVEL

12

21

BROWN SANDY CLAY

21

255

BLUE CLAY

158

209

COARSE SAND & BLUE CLAY

208

250

COARSE SAND & WATER

250

275

CLAY SAND & WATER

275

294

(6) CONSTRUCTION DETAILS:

Casing installed:

10

* Dia. from 0

ft. to 181

ft.

WELDED

8

* Dia. from 0

ft. to 294

ft.

* Dia. from

ft. to

ft.

Perforations: NO

Type of perforator used

SIZE of perforations

in. by

in.

perforations from

ft. to

ft.

perforations from

ft. to

ft.

perforations from

ft. to

ft.

Screens: YES

Manufacturer's Name

DOOR

Type STAINLESS STEEL

Model No.

Diam. 8 slot size 25

from 294

ft. to 288

ft.

Diam. 8 slot size 20

from 284

ft. to 274

ft.

Gravel packed: NO

Size of gravel

Gravel placed from

ft. to

ft.

Surface seal: YES

To what depth? 18

ft.

Material used in seal BENTONITE

Did any strata contain unusable water? NO

Type of water?

Depth of strata

ft.

Method of sealing strata off

(7) PUMP: Manufacturer's Name

Type

H.P.

(8) WATER LEVELS:

Land-surface elevation

above mean sea level

ft.

Static level 157

ft. below top of well

Date 07/03/96

Artesian Pressure

lbs. per square inch

Date

Artesian water controlled by

Work started 06/24/96

Completed 07/03/96

(9) WELL TESTS: Drawdown is amount water level is lowered below static level.

Was a pump test made?

If yes, by whom?

Yield:

gal./min with

ft. drawdown after

hrs.

Recovery data

Time Water Level

Time Water Level

Time Water Level

Time Water Level

Time Water Level

Time Water Level

Time Water Level

Time Water Level

Date of test

Soiler test

gal./min. 107

ft. drawdown after

hrs.

Air test 250

gal./min. w/ stem set at

ft. for 1

hrs.

Artesian flow

g.p.m.

Date

Temperature of water

Was a chemical analysis made?

WELL CONSTRUCTION CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME DARLEMAN PUMP & WELL DRILL

(Person, firm, or corporation) (Type or print)

ADDRESS PO BOX 422(SIGNED) Leo Riechert

License No. 0623

Contractor's

Registration No. DARLEMAN123LC

Date 07/03/96

32852

Well B (SO3)

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGYREPORT OF EXAMINATION
TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

- ☐ Surface Water (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.)
- ☒ Ground Water (Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology.)

PRIORITY DATE	APPLICATION NUMBER	PERMIT NUMBER	CERTIFICATE NUMBER
May 12, 1992	G1-26589A		

NAME	ADDRESS (STREET)	(CITY)	(STATE)	(ZIP CODE)
Vistaire Water System	2863 E. Verlane St.	Langley	WA	98260

PUBLIC WATERS TO BE APPROPRIATED

SOURCE	MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE (gpm)	MAXIMUM ACRE FEET PER YEAR (afy)
Well		525 gpm	250 afy
TRIBUTARY OF (IF SURFACE WATERS)	QUANTITY, TYPE OF USE, PERIOD OF USE		
	Multiple domestic supply, year-round, continuously for 834 connections		

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION-WITHDRAWAL	LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N.	RANGE, (E OR W), W.M.	W.R.T.A.	COUNTY
	SE1/4 SW1/4	09	29	3 E	6	Island

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

The W 1/2 of the NW 1/4; and the NW 1/4 of the SW 1/4 of Sec. 9, Twn. 29 N., Rng. 03 E, W.M.; together with the N 1/2 of the SE 1/4, and the NE 1/4 of the SW 1/4; and the S 1/2 of the NW 1/4 of the SW 1/4; and the SW 1/4 of the SW 1/4 of Sec. 8, Twn. 29, Rng. 03 E., W.M.; together with the E 1/2 of the SE 1/4 of Sec. 7., Twn. 29 N, Rng. 03 E, W.M., lying N of the State Hwy 525 centerline; together with the W 1/2 of the NW 1/4 of Sec. 17, Twn. 29 N, Rng. 03 E, W.M. lying North of the State Hwy 525 centerline, all situated in County of Island, State of Washington.

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE:	COMPLETE PROJECT BY THIS DATE:	WATER PUT TO FULL USE BY THIS DATE:
Begun	January 1, 2029	January 1, 2031

DESCRIPTION OF WORKS

As detailed in Vistaire Water System Plan; prepared to satisfy Washington State Department of Health requirements.

PROVISIONS

The abandoned well near the source of withdrawal (less than 25 feet) must be decommissioned.

STANDARD PROVISIONS

1. Wells, Well logs and Well Construction Standards

- 1.1. All wells constructed in the state shall meet the construction requirements of WAC 173-160 titled "Minimum Standards for the Construction and Maintenance of Wells" and RCW 18.104 titled "Water Well Construction". Any well which is unusable, abandoned, or whose use has been permanently discontinued, or which is in such disrepair that its continued use is impractical or is an environmental, safety or public health hazard shall be decommissioned.
- 1.2. All wells shall be tagged with a Department of Ecology unique well identification number. If you have an existing well and it does not have a tag, please contact the well-drilling coordinator at the regional Department of Ecology office issuing this decision. This tag shall remain attached to the well. If you are required to submit water measuring reports, reference this tag number.
- 1.3. Installation and maintenance of an access port as described in WAC 173-160- 291(3) is required.

2. Measurements, Monitoring, Metering and Reporting

- 2.1. An approved measuring device shall be installed and maintained for each of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use", WAC 173-173.
- 2.2. Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the records of water use that are kept to meet the above conditions, and to inspect at reasonable times any measuring device used to meet the above conditions.
- 2.3. Reported water use data shall be submitted via the Internet. To set up an Internet reporting account, access <https://fortress.wa.gov/ecy/wrx/wrx/Meteringx/>. If you do not have Internet access, contact the Northwest Region Office for forms to submit your data.
- 2.4. WAC 173-173 describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition the Department of Ecology for modifications to some of the requirements. Installation, operation and maintenance requirements are enclosed as a document entitled "Water Measurement Device Installation and Operation Requirements".
<http://www.ecy.wa.gov/programs/wr/measuring/measuringhome.html>
- 2.5. In order to maintain a sustainable supply of water, pumping must be managed so that static water levels do not progressively decline from year to year. Water levels shall be measured and recorded monthly, using a consistent methodology. The length of the pumping period or recovery period prior to each measurement shall be constant, and shall be included in the record. Data for the previous year shall be submitted by January 31 to the Department of Ecology.

Static water levels data shall be submitted in digital format and shall include the following elements:

1. Unique Well ID Number
2. Measurement date and time
3. Measurement method (air line, electric tape, pressure transducer, etc.)
4. Well status (pumping, recently pumped, etc.)
5. Water level accuracy (to nearest foot, tenth of foot, etc.)
6. Description of the measuring point (top of casing, sounding tube, etc.)
7. Measuring point elevation above or below land surface to the nearest 0.1 foot
8. Land surface elevation at the well head to the nearest foot.
9. Static water level below measuring point to the nearest 0.1 foot.

3. Chloride Monitoring

In January of each year, the following information shall be submitted in writing to the Department of Ecology, Northwest Region Office, Bellevue, Washington.

April and September measurements from the subject well(s) of:

- Chloride and conductivity (the chemical analysis shall be performed by a state-accredited laboratory)
- Depth to static water level (with pump off long enough to allow for stabilization)
- The chloride/conductivity sampling and the static water level measurement shall be conducted concurrently.

This data collection will assist the applicant and Ecology in determining if actions are necessary to prevent an increasing trend in chloride concentrations (an indicator of seawater intrusion). Preventative actions may include – reducing the instantaneous pumping rate, reducing the annual volume pumped, scheduling pumping to coincide with low tides, raising the pump intake, and/or limiting the number of service connections.

4. Department of Health Requirements

Prior to any new construction or alterations of a public water supply system, the State Board of Health rules require public water supply owners to obtain written approval from the Office of Drinking Water of the Washington State Department of Health. Please contact the Office of Drinking Water at Northwest Drinking Water Operations, 20435 72nd Avenue S, Suite 200, K17-12, Kent, WA 98032-2358, (253) 396-6750, prior to beginning (or modifying) your project.

5. Water Use Efficiency

Use of water under this authorization shall be contingent upon the water right holder's maintenance of efficient water delivery systems and use of up-to-date water conservation practices consistent with established regulation requirements and facility capabilities.

FINDINGS OF FACT AND ORDER

Upon reviewing the investigator's report, I find all facts, relevant and material to the subject application, have been thoroughly investigated. Furthermore, I find a permit of water right as recommended will not be detrimental to existing rights or the public welfare.

Therefore, I ORDER the requested permit to purpose and place of use, point of diversion, and season of use under Groundwater Application No. G1-26589, subject to existing rights and the provisions specified above.

You have a right to appeal this decision. To appeal this you must:

- File your appeal with the Pollution Control Hearings Board *within 30 days of the "date of receipt" of this document*. Filing means actual receipt by the Board during regular office hours.
- Serve your appeal on the Department of Ecology within 30 days of the "date of receipt" of this document. Service may be accomplished by any of the procedures identified in WAC 371-08-305(10). "Date of receipt" is defined at RCW 43.21B.001(2).

Be sure to do the following:

- Include a copy of this document that you are appealing with your *Notice of Appeal*.
- Serve and file your appeal in paper form; electronic copies are not accepted.

1. To file your appeal with the Pollution Control Hearings Board

Mail appeal to:

The Pollution Control Hearings Board
PO Box 40903
Olympia WA 98504-0903

OR Deliver your appeal in person to:

The Pollution Control Hearings Board
4224 - 6th Ave SE Rowe Six, Bldg 2
Lacey WA 98503

2. To serve your appeal on the Department of Ecology

Mail appeal to:

The Department of Ecology
Appeals Coordinator
P.O. Box 47608
Olympia WA 98504-7608

OR Deliver your appeal in person to:

The Department of Ecology
Appeals Coordinator
300 Desmond Dr SE
Lacey WA 98503

3. And send a copy of your appeal to:

Andrew B. Dunn, LG, LHG
Section Manager
Water Resources Program -- Department of Ecology
3190 160th Avenue SE
Bellevue, WA 98008-5452

For additional information visit the Environmental Hearings Office Website: <http://www.eho.wa.gov>. To find laws and agency rules visit the Washington State Legislature Website: <http://www1.leg.wa.gov/CodeReviser>.

If you have any questions, please contact Noel Philip of Ecology at (425) 649-4451.

Signed at Bellevue, Washington, this 26th day of March, 2009.

Andy B. Dunn, LG, LHG
Section Manager
Water Resources Program
Northwest Region Office

INVESTIGATOR'S REPORT

Noel S. Philip, LG, Department of Ecology
Water Right Control Number G1-26589

BACKGROUND

Groundwater Application #: G1-26589
Applicant Name: Vistaire Water System
Priority Date: May 12, 1992
Source: Well
Purpose of Use: Multiple domestic
Period of Use: Year-round continuous
Notice of Publication: Whidbey News Times,
September 3 and 10, 2005
Protests: None received during 30-day protest period
Exempt
SEPA Compliance: Exempt

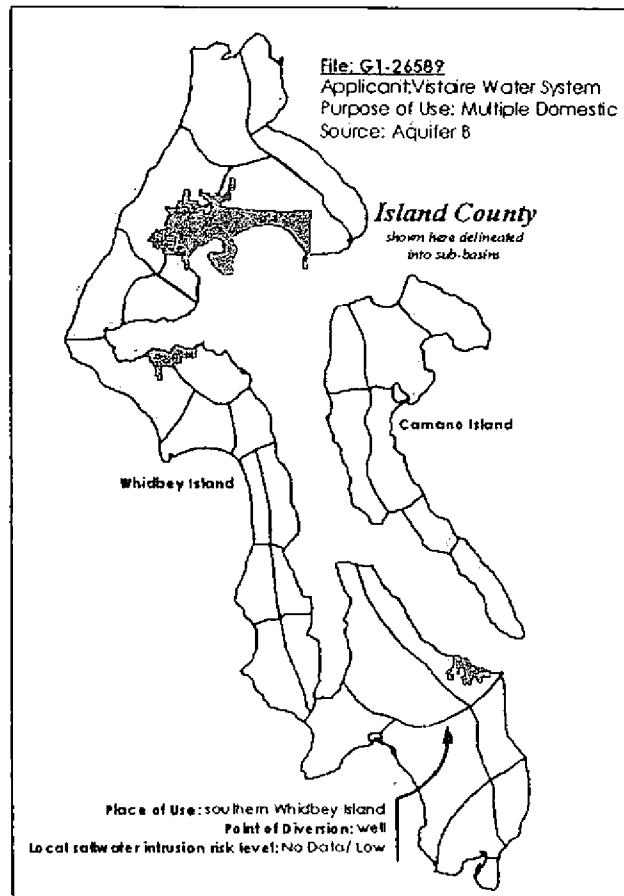
Micheal John O'Sullivan (O'Sullivan) submitted Water Right Application G1-26589 to Department of Ecology (Ecology) May 12, 1992. The application originally sought permission to perfect water for irrigation of a golf course from two wells at 475 gallons per minute (gpm). O'Sullivan assigned the application to Vistaire Water System (Vistaire). The current proposed 525 gpm withdrawal is intended to serve multiple domestic users by perfecting additive instantaneous and annual water rights for the domestic community served by Vistaire.

The public responded to O'Sullivan's published intent to irrigate a golf course with 4 protests. Vistaire re-published intent under this application to withdraw 525 gallons per minute, based on the well's capacity. No one protested the water system's intent to appropriate for multiple domestic service.

Vistaire is the current holder of Water Right Permit G1-25452P. This occurred through the following assignments: James & Terry Lehman assigned the permit August 10, 1992, to RKP (Robert Porter) Enterprises, Incorporated. Mr. Porter subsequently assigned the permit to R & D Park Creek, LLC.

Interest in the permit changed through assignment from R & D Park Creek, LLC to Vistaire Water System.

James and Terry Lehman submitted Water Right Application G1-25452 May 23, 1989 to appropriate groundwater at 90 gallons per minute (gpm). Ecology issued permit G1-25452P for 52 gpm and 50 acre feet per year (afy) June 15, 1990. The permit was appealed and the Pollution Control Hearings Board (PCHB No. 90-63) dismissed the case. In another appeal, the PCHB upheld the permit (PCHB 90-134), ruling in Ecology and James & Terry Lehman's favor.



INVESTIGATION

State Water Code

Chapters 90.03 and 90.44 RCW authorize the appropriation of public water for beneficial use and describe the process for obtaining water rights including the process to amend or change existing rights. Laws specifically governing the water right permitting process are RCW 90.03.250 through 90.03.340 and RCW 90.44.060. Changes or amendments to these rights are covered under RCW 90.03.380 and RCW 90.44.100.

Purpose of Use

Ground water is requested for multiple domestic supply, year-round.

Whidbey Island Hydrogeology

As noted by Easterbrook (1968), Whidbey Island is generally composed of unconsolidated Pleistocene glacial and interglacial deposits that overlie Tertiary and older bedrock. The Island County Groundwater Management Plan, Part A, Technical Memorandum, (GWMP) describes the groundwater flow system on Whidbey Island as a series of discontinuous water-bearing zones (sand and gravel aquifers) surrounded by zones of lower-permeable glacial sediments (silt, clay and till aquitards). All recharge to the system originates as rain falling on the surface of the island. Groundwater generally flows downward in the inland portions of the island then outward through the aquifers toward the coast and offshore. In these discharge areas, groundwater generally flows from deeper to shallower aquifer zones and then discharges to the sea where the aquifers intersect a cliff, beach face or ocean bottom.

The series of aquifers on Whidbey Island is complex, resulting from the deposition and erosion patterns created by at least three glaciation and three inter-glaciation periods. Although the USGS has designated five aquifer zones, termed A (oldest) through E (youngest), these zones are laterally discontinuous, vary in depth and thickness, and may be interconnected at various locations. The degree of connection with marine waters is also likely variable. As a result, the effect of withdrawing groundwater from any particular depth and location could have widely variable impacts on nearby wells and on the potential for seawater intrusion.

(10) WELL LOG		
Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change in formation.		
MATERIAL	FROM	TO
BROWN SAND	0	12
BLUE CLAY	12	21
BROWN CLAY & GRAVEL	21	155
BROWN SANDY CLAY	155	208
BLUE CLAY	208	250
COARSE SAND & BLUE CLAY	250	275
COARSE SAND & WATER	275	294
CLAY SAND & WATER	294	

Figure 1. Well log of Uncle Stuart's Golf well, subject well for Vistaire Water System Water Right Application G1-26589 (Ecology Well Log Database, 2006. Data supplied by well driller. No warranty of accuracy is implied).

Hydrogeology Near G1-26589

The Vistaire well (named Uncle Stuart's Golf in Ecology Well Log Database) is located approximately 2.5 miles west of Saratoga Passage on south Whidbey Island. Dahlman Pump & Well Drilling installed 10-inch casing 181 feet downhole, and cased 274 feet inside the 10-inch with 8-inch casing, and installed 10 feet of 20-slot screen to a 284 foot depth, and 25-slot screen to 294 feet; the completed depth of the well (Figure 1). Ground level is about 180 feet above mean sea level (MSL, datum: NAD 1983). The screened interval extends from -114 to -94 feet MSL. Ecology personnel measured the static water level December 15, 2005. Static water level in the well was 166.16 feet below the top of the well casing, 164.16 (16 feet MSL), after correcting for 2.0 feet of wellhead stickup above ground. This water level shows static head values 110 feet above the top of the screen, and above the blue clay confining layer, indicating confined conditions at this location.

Nearby well logs and geologic cross sections CWSP G & H found in the *Island County Coordinated Water System Plan Regional Supplement* substantiate the geology in the well log (Figure 1). They suggest the Vistaire well is completed within Aquifer B in the Middle Langley Upland region of southern Whidbey Island. The report doesn't offer any information regarding the geologic unit. Easterbrook admits the uncertainty in geologic identification of aquifers below sea level in this area; however, he offers a possible connection to the medium sand aquifers occurring with the Whidbey Formation, and outwash phases of the Double Drift. These glacial deposits consist of horizontally and cross-bedded layers of sand, silt, and clay with two distinct organic (peat) layers. The units are not described as one single water-bearing zone; but rather a zone containing many small, separate aquifers. The screened interval of the Vistaire well spans a 19-foot zone of sand indicating the presence of Aquifer B at this locality due to its elevation and vertical relationship to Aquifers C and D.

Water Availability

The results of the pump test confirm 525 gpm can be sustained by the well, and show recovery within a reasonable amount of time. The drawdown in the well suggests the available head in the well is substantial. The recovery data recorded show the water level exceeded the initial static water level. This peculiarity is a possible result of developing the natural gravel pack in the annulus by pumping the well, effectively increasing the well's efficiency, thereby improving flow to the well from the

aquifer. The well is not yet connected to a water system, providing evidence of its lack of use and potential to be developed and improved as a well at the time of the test.

The pump test data are summarized below:

Date	Friday, July 21, 2006
Duration	24 hours
Wellhead elev	180 feet MSL
Static Water Level	16 feet MSL
Pumping Water Level	-8 feet MSL
Drawdown	24.24 feet
Stabilization Time	11.75 hours
Available Head During Pumping	86 feet
Recovery Level	16.75 feet MSL
Recovery Time	45 minutes

Annual water allocation required by the applicant is calculated using the number of anticipated connections and water use per connection. Residential water use is based on historical and current data from similar water systems on Whidbey Island. Presently, these systems indicate average use per connection is approximately one-third (0.3) acre-foot per year. At this rate, the annual water quantity required by the applicant to serve 834 residential connections (per their water system plan) is 250 acre-feet per year. This is likely much more than is required due to the efficiency of larger water systems using closer to 0.25 acre-feet per connection. Vistaire is required to implement conservation practices as outlined in their water system plan on file with Washington State Department of Health.

Potential for Seawater Intrusion

The greatest threat to groundwater in Island County is seawater intrusion. The potential for seawater intrusion is related to the elevation of the groundwater (or potentiometric surface) relative to sea level. Aquifers having little or no groundwater head above sea level are susceptible to intrusion. Other factors such as recharge rate, pumping rate, aquifer transmissivity, hydraulic gradient, seasonal variation, and the geometry of the aquifer can influence the distribution and magnitude of seawater intrusion resulting from any particular withdrawal. Increasing concentrations of chloride in groundwater can be an indication of seawater intrusion. Unaffected groundwater in Island County generally contains a chloride concentration between 10-20 mg/L. Concentrations of 100 mg/L or greater provide evidence of seawater intrusion unless other sources of chloride are present such as naturally occurring hard groundwater.

The Island County Health Department ranking system classifies the area surrounding the point of withdrawal as low risk for seawater intrusion, resulting from a static water level above 8.4 feet MSL. The subject well is not located within half a mile of any groundwater source with chloride concentrations equal to or greater than 100 mg/l. Additionally, the nearest salt-water source, Puget Sound, is located more than 2.3 miles from the well. Three separate water quality reports show chloride levels below 20 mg/L. This shows a normal background level of chloride like most of Whidbey Island. The likelihood of withdrawal at this location at 525 gpm resulting in an inland advance of the fresh-saline water interface is small, but should be monitored over time.

Impairment to Existing Water Rights and Exempt Wells

Groundwater wells that are at greatest risk of potential impairment are those which are completed in the same aquifer zone as the subject well, located in close proximity to the subject well, and also located hydrogeologically down-gradient from the subject well. As water in the aquifer travels toward wells that are located down-gradient from the subject well, the subject well may potentially capture this water and impair the production of down-gradient wells. Also, surface water diversions located within a close proximity of the subject well may potentially be impacted by the groundwater withdrawal, depending upon hydraulic continuity of the aquifer and surface water body. An arbitrarily, yet conservatively chosen distance of one-half mile (1/2-mile) is used to define "close proximity." This value is justified experimentally based on current and historical pump test data that show negligible drawdown, and therefore unlikely impairment to wells or surface water diversions, induced by groundwater withdrawal at distances of 1000 feet in most cases. Furthermore, it is widely understood the aquifer systems in Island County are not laterally continuous, suggesting physical barriers exist in addition to limiting hydraulic conditions.

The Department of Ecology Water Rights Application Tracking System (WRATS) and Well Log databases and the Island County Hydrogeology database (March 2003) show the existence of one surface water right certificates, nine water right claims, and 24 existing exempt wells within a half-mile radius of the Vistaire well. The exempt wells may be tied to existing water right certificates or claims under a different name.

The surface water certificate shows a diversion approximately 200 vertical feet from the top of the screen at the Vistaire well. It is unlikely groundwater withdrawal at the Vistaire well will affect the surface water availability of the certificated senior water right diversion.

A water right claim is a statement describing the beneficial use of water that occurred prior to the adoption of the water right codes and is not authorized by a state-issued permit or certificate. The Department of Ecology cannot verify the validity of these claims, as water right claims can only be confirmed in an adjudication by the Washington State Superior Court. Exempt withdrawal of public groundwater is defined in RCW 90.44.050.

Washington water law does not consider drawdown to be an impairment of existing water rights, unless the affected wells fully penetrate the aquifer and can no longer produce their allocations. Therefore, impairment to any senior water rights due to pumping of the Vistaire well is unlikely.

Beneficial Use

Water used for multiple domestic supply is considered a beneficial use under RCW 90.54.020(1).

Public Interest Considerations

Factors considered in determining whether this use of water is in the public interest include but were not limited to: consideration given to exempt wells; existing water right certificates, applications, and claims; potential impacts to the aquifer subject to withdrawal as it pertains to drawdown and water quality (i.e. aquifer degradation); beneficial use of water as a resource defined in this report. No detriment to the public interest could be identified during the investigation of the subject application. Available data show existing wells in the area are not expected to be impaired by the anticipated operation of the subject well.

Consideration of Protests and Comments

David H. Anderson protested the use of the well for golf course irrigation, and made assumptions of annual water use based on pumping the well 24 hours per day 365 days per year. The actual permitted quantity is based on Island County standards derived from observations of other water systems evaluated through time by various administrative bodies, including Ecology. The ultimate amount of water certificated at the end of the development schedule is identified by the use of water through time, not by pump rates alone.

Bob Waters protested the use of the well for golf course irrigation citing availability concerns. The decision to permit the appropriation at 525 gpm is made based on pump test data assumed to be factual free of reporting error. These data show the ability of the well to pump 525 gpm and not impair the ability of wells nearby based on drawdown likely negligible at the well nearest the withdrawal. Mr. Waters also takes issue with use of water for irrigation, stating it is not the highest and most beneficial use. However, irrigation has been repeatedly justified as a beneficial use in both this area, Island County, and the rest of Washington State.

Mark and Linda Racicot protested the use of the well citing local newspapers reference to salt water intrusion and limited water resources in Island County. These issues are common among coastal aquifers and those hydraulically connected to such waters. The withdrawal in this report is, by comparison, much further inland, posing a very limited (negligible) threat of causing saltwater intrusion into the aquifer. However, long-term effects can not be determined by a pump test of limited duration. Thus, groundwater chloride monitoring is included in the provisions for this permit.

Edward R. Van Patten protests the volume of water permitted for irrigation of a golf course. The beneficial use was changed multiple domestic, and the publication announcing Vistaire's intent to withdraw water for this use was not protested.

Recommendations

Based on the hydrogeologic evaluation and preliminary assessment of potential impairment to existing rights, it is recommended that groundwater application G1-26589 be approved for an instantaneous withdrawal rate of 525 gallons per minute, and an allocation of 250 acre-feet per year. Provisions to the permit should include regular monitoring of chloride levels and static water levels throughout the year, and water level monitoring at the Uncle Stuart's Golf well.

REPORT BY _____

DATE March 25, 2009

Noel S. Philip
Hydrogeologist
Washington State Department of Ecology

